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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/763,641	03/29/01	GILES	K WLJ.072

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MM91/0928

EXAMINER

GHYKA, G

ART UNIT

PAPER NUMBER

2812

DATE MAILED: 09/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/763,541

Applicant(s)
GILES et al

Examiner
Alex Ghyka

Art Unit
2812



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Apr 5, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 25-28 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 25-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 6 20) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

3. **Claims 1-23 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukune et al (EP 0 519 079).**

4. The present claims generally call for a method of forming a film on a substrate comprising positioning the substrate on a support in a chamber, supplying to the chamber in gaseous or vapor form a silicon containing organic compound and an oxidizing agent in the presence of a plasma to deposit a film on the substrate, and setting the film such that the carbon containing groups are

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contained therein. Various dependent claims further define the reactants and reaction conditions, and call for a hydrogen plasma in the process. Claims 26-28 further call for an apparatus to practice the method claims.

5. Tsukune et al disclose a process for forming a silicon oxide film comprising the step of depositing a thin film of a silanol, a polymer thereof or a siloxane polymer, each containing an organic group, on a substrate by exciting a gas containing an organosilane or organosiloxane gas and a gas containing H and OH on a substrate in a reaction chamber to cause a reaction in a gas phase. See the Abstract. Moreover, Tsukune et al disclose the reactants as claimed by the presently claimed invention. See page 8, line 25-55. Tsukune et al further disclose that the low polymer adsorbed on the wafer flows on the surface of the thin film of an organic-group containing silicon oxide formed on the wafer and is converted to a thin film of an organic-group containing silicon oxide while crosslinking with a dangling bond on the surface of the organic-group containing silicon oxide. See page 11, lines 32-36. The use of a hydrogen plasma is disclosed on page 10, lines 35-40. Furthermore, Tsukune et al generally disclose the presently claimed reaction conditions and a parallel plate plasma CVD system. See page 11, lines 35-55 and page 13, Example 1.

6. Thus, Tsukune et al disclose all of the presently claimed limitations with the exception of the various reaction parameters such as the temperature, time and pressure ranges of the claims at hand.

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7. It would have been obvious, for one of ordinary skill in the art to arrive at the presently claimed reaction parameters as the disclosure of Tsukune et al broadly encompasses the presently claimed limitations. The establishment of the optimal reaction parameters is a matter of optimization. Where the general conditions of a claim is disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. See *Allen et al. v. Coe*, 57 USPQ 136. Moreover, the discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. See *In re Aller*, 105 USPQ 233.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Ghyka whose telephone number is (703) 305-3407. The examiner can normally be reached on Monday through Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached on (703) 308-3325. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

September 17, 2001

AGG

ALEXANDER G. GHYKA
AU 2812
PATENT EXAMINER
